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**DIRECTORY OF  
WATER RESOURCES  
EXPERTISE  
In Minnesota Universities and Colleges**

UNIVERSITY OF MINNESOTA  
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ST. PAUL, MN 55108

Special Report, No. 8

April 1987

**DIRECTORY OF  
WATER RESOURCES EXPERTISE  
in  
MINNESOTA UNIVERSITIES AND COLLEGES**

Special Report No. 8

Water Resources Research Center  
University of Minnesota  
St. Paul, MN 55108

April 1987

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## TABLE OF CONTENTS

Preface .....	iii
Faculty and Staff Scientists .....	1
Research Topic Index .....	28
Campus and Department Index .....	35

## ACKNOWLEDGEMENTS

Funds to prepare and publish this report were provided by the University of Minnesota Graduate School, Robert T. Holt, Dean. The WRRC appreciates the cooperation of the many individuals we contacted to prepare the faculty and staff lists in this publication.

The Water Resources Research Center  
Graduate School  
University of Minnesota  
866 BioSciences Center  
St. Paul, MN 55108  
(612)624-9282

Patrick L. Brezonik, Director  
Elizabeth Espointour, Executive Secretary

This is the eighth in the WRRC special report series. The Center also publishes technical reports summarizing results of research projects it supports, public interest reports, and a newsletter, Minnegram. A complete listing of available reports is available from the Center.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, or veteran status.

## Preface

The diversity and breadth of Minnesota's surface and ground waters are a matchless resource in which the state long has taken considerable pride. The talent and expertise in water-related disciplines that resides within the state's universities and colleges likewise is impressive and also must be regarded as an important state resource. This publication lists faculty and staff in Minnesota institutions of higher education who have research interests and technical expertise in one or more of the many disciplines concerned with the management, understanding, or use of water resources.

The publication is divided into three parts. Part I is an alphabetical listing of water-related faculty and academic staff in the state and gives addresses, phone numbers, and brief statements of the individuals' areas of interest and expertise. Part II is an index of individuals according to research areas and academic discipline; many individuals have expertise in several disciplines or topics, and individuals may be cross-listed in several categories. Part III is an index of individuals by campus location. For the larger universities, the index is subdivided by department or center.

The Water Resources Research Center assembled the information for this report by contacting heads or chairpersons of academic departments at all four year colleges and universities in the state. Letters were sent to more than 120 departments, including all those in the physical and biological sciences, agricultural and engineering disciplines, and social sciences related to water resources (e.g. economics, geography). In addition, all academic centers and institutes oriented toward natural resources issues also were contacted. The letter asked the department heads to send us a list of all faculty and staff in their departments who have a professional interest in water as a resource. In addition, we discovered additional names by reviewing college bulletins and by personal contact. The Center then contacted all these individuals by mail and/or phone and assembled the information in this publication.

By its nature, water resources research is very diverse and encompasses many disciplines. As a result, the expertise summarized in this publication resides in a large number of centers, departments and colleges scattered throughout the state. The Water Resources Research Center hopes this publication will be useful to the persons listed in it in enabling them to find out who their colleagues are and where they are located. Similarly, it should be useful to state, regional, and local water management agencies and consulting firms, who frequently have a need for technical expertise to complement that of "inhouse" staffs. Finally, we hope that the publication will be useful to university administrators in assessing the breadth and depth of water-related expertise in academic programs and research centers of the state's academic institutions.

In spite of our efforts to make this publication an all-inclusive list of academic expertise in water resources, we probably have missed some individuals. We hope those persons will not be offended at the oversight and will contact the Center so that they can be included in future revisions of this publication. We also would appreciate hearing from persons listed in the publication for corrections or additions to statements of interest and listings in the research topic index.

FACULTY AND STAFF SCIENTISTS

ALPHABETICAL LISTING

Abbott, Robinson S.  
Professor  
Department of Biology  
University of Minnesota  
Morris, MN 56267

612-589-2211

Biology of water resources.

Adams, Russell S.  
Professor of Soil Biochemistry  
Department of Soil Science  
250 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108

612-625-4229

Environmental issues and policies;  
hydrocarbon spills, animal manure as a  
pollutant, and pesticide residues in soil  
and water.

Adelman, Ira R.  
Professor and Head  
Department of Fisheries & Wildlife  
University of Minnesota  
St. Paul, MN 55108

612-624-3600

Environmental physiology of fishes and  
aquaculture

Alexander, E. Calvin, Jr.  
Professor  
Department of Geology and Geophysics  
30A Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455

612-624-3517

Karst environmental geohydrology;  
groundwater pollution problems in  
fractured aquifers, nonpoint source  
pollution problems, age and residence  
times of groundwaters, tracing of  
subsurface flow, isotope geohydrology.

Allmaras, Raymond R.  
Professor  
Department of Soil Science and  
Soil Scientist, U.S. Department of Agriculture  
439 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108

612-625-1742

Tillage; root development; soil temperature;  
soil water flow; crop residue management.

Alstad, Donald N.  
Assistant Professor  
Department of Ecology & Behavioral Biology  
211 Zoology  
University of Minnesota  
Minneapolis, MN 55455

612-625-0488

Stream suspension feeding communities; aquatic  
insect communities.

Anderson, Curt L.  
Assistant Professor  
Department of Economics  
University of Minnesota  
Duluth, MN 55812

218-726-7946

Natural resources economics; environmental  
economics.

Anderson, Garry G.  
Professor  
Department of Earth Sciences  
St. Cloud State University  
St. Cloud, MN 56301

612-255-2014

Hydrology; groundwater; geohydrology;  
sedimentology; physical stratigraphy.

Anderson, James L.  
Associate Professor & Extension Soil Scientist  
Department of Soil Science  
S501 Soils Building  
University of Minnesota  
St. Paul, MN 55108

612-625-8209

Water movement in soils; waste treatment; soil  
survey.

Anderson, Paul M.  
Professor and Acting Head  
Department of Biochemistry and Medicinal  
Chemistry  
252 Med  
University of Minnesota  
Duluth, MN 55812 218-726-7921

Fish metabolism of toxic substances.

Anding, Thomas L.  
Associate Director  
Center for Urban and Regional Affairs  
330 Hubert H. Humphrey Center  
University of Minnesota  
Minneapolis, MN 55455 612-625-1551

Land use issues as related to water  
quality, intergovernmental nature of  
water policy; interface between economic  
development and the environment.

Arndt, Roger E.A.  
Professor  
Department of Civil and Mineral  
Engineering and Director,  
St. Anthony Falls Hydraulic Laboratory  
Mississippi River at 3rd Ave. S.E.  
University of Minnesota 612-625-0153  
Minneapolis, MN 55414 612-627-4012

Cavitation, turbomachinery,  
hydroacoustics, hydropower

Baker, Dale R.  
Director  
Sea Grant Extension  
208 Washburn Hall  
University of Minnesota  
Duluth, MN 55812 218-726-8106

Great Lakes water levels; erosion;  
dredging; water quality issues.

Baker, Donald G.  
Professor  
Department of Soil Science  
S-331 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-6235

Weather forecasting in U.S., Europe, and Asia;  
agricultural climatology, meteorology and applied  
climatology.

Bakko, Eugene B.  
Associate Professor  
Department of Biology  
St. Olaf College  
Northfield, MN 55057 507-663-3399

Ecology; culture and agriculture; groundwater; soil  
erosion and runoff.

Bellig, Robert A.  
Associate Professor  
Biology Department  
Gustavus Adolphus College  
St. Peter, MN 56082 507-931-7332

Ecology and distribution of fishes; stream fishes  
of southern Minnesota.

Benoit, George R.  
Supervisory Soil Scientist  
North Central Soil Conservation Research Laboratory  
University of Minnesota  
Morris, MN 56267 612-589-3411

Soil-water-plant interactions and associated  
barriers to yield; crop yield barrier studies and  
soil erosion-soil productivity relations; soil  
frost-tillage interactions; soil erodibility and  
temperature effects on plant growth.

Berglund, Erwin R.  
Adjunct Professor,  
College of Forestry, University of  
Minnesota  
Senior Hydrologist  
Minnesota Department of Natural Resources  
Division of Minerals  
500 Lafayette Rd.  
St. Paul, MN 55155-4045

612-297-1125

Hydrology of taconite mineland  
reclamation and of peatlands, peat mining  
and reclamation.

Bergsrud, Fred G.  
Professor  
Department of Agricultural Engineering  
213 Agricultural Engineering  
University of Minnesota  
St. Paul, MN 55108

612-625-7733

Irrigation; agricultural drainage; water  
quality; water resource management.

Bixby, Robert  
Assistant Professor  
Department of Geography  
St. Cloud State University  
St. Cloud, MN 56301

612-255-2170

Water and adjacent land uses; regulating  
permitting structures; water frontage  
development.

Blake, John G.  
Research Associate  
Natural Resources Research Institute  
University of Minnesota  
Duluth, MN 55811

218-720-4269

Wetland ecology.

Bloom, Paul R.  
Associate Professor  
Department of Soil Science  
439 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108

612-625-1244

Mineral weathering processes; effects of  
acid deposition on soils; forest soils.

Bloomgren, Bruce A.  
Assistant Scientist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114

612-627-4784

State wide water well record data base.

Borchert, John R.  
Regents Professor  
Department of Geography  
414 Social Science  
University of Minnesota  
Minneapolis, MN 55455

612-625-9354

Geography as applied to land development and  
resource management.

Brezonik, Patrick L.  
Professor  
Department of Civil & Mineral Engineering  
& Director  
Water Resources Research Center  
University of Minnesota  
866 Biological Science Center  
St. Paul, MN 55108

612-625-0866

612-624-9282

Water quality; coordination of aquatic research;  
pollutant behavior in lakes; aquatic effects of  
acid precipitation, water chemistry; elemental  
cycles.

Brooks, Kenneth N.  
Professor  
Department of Forest Resources  
110 Green Hall  
University of Minnesota  
St. Paul, MN 55108

612-624-2774

Hydrology; hydrologic modeling; wetland (peatland)  
hydrology; methods of evaluating/appraising  
watershed management practices.



Brown, Dwight A.  
Professor  
Department of Geography  
414 Social Science  
University of Minnesota  
Minneapolis, MN 55455

612-625-9097

Spatial and temporal variability of water  
resources; fluvial processes; simulation  
modeling; geographic information systems;  
water resources application of remote  
sensing.

Buchwald, Edward  
Lloyd McBride Professor of Environmental  
Studies and Chairman,  
Department of Geology  
Carleton College  
Northfield, MN 55057

507-645-9823

Land-use planning; geohydrology and  
environmental geology.

Burnside, Orvin C.  
Professor and Head  
Department of Agronomy & Plant Genetics  
411 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108

612-625-8761

Pesticides and water quality; herbicides.

Carlin, Charles H.  
Professor  
Department of Chemistry  
Carleton College  
Northfield, MN 55454

507-663-4413

Aquatic toxicology; ecosystem analysis.

Carlson, Robert M.  
Acting Vice Chancellor, Academic  
Administration  
Professor

Department of Chemistry  
420D Administration Building  
University of Minnesota  
Duluth, MN 55812

218-726-7103

Water chemistry and quality; organic  
contaminants; biochemical sensors of  
potential carcinogens, structure-activity  
relationships.

Chandler, Val W.  
Adjunct Professor  
Minnesota Geological Survey  
2642 University Ave.  
St. Paul, MN 55114

612-627-4801

Exploration geophysics; gravity and magnetic  
methods; crustal studies.

Chang, Fu-Hsian  
Associate Professor, Environmental Microbiology  
Center for Environmental Studies  
Bemidji State University  
Bemidji, MN 56601

218-755-2910

Biodegradation of toxic organic pollutants in  
surface and ground water; effects of acid  
precipitation on nutrient transformations;  
microbiological and chemical utilization of peat;  
effects of pollutants on microbial nutrient  
transformations in agricultural and wetland soils;  
bioconversion of solid waste to energy and useful  
products.

Clanton, Charles J.  
Instructor  
Department of Agricultural Engineering  
230 Agricultural Engineering  
University of Minnesota  
St. Paul, MN 55108

612-625-9218

Agricultural waste management; food processing  
waste management; land application of waste.

Clapp, C. Edward  
Professor  
Department of Soil Science and  
Research Chemist, US Department of Agriculture  
S527 Soil Science Building  
University of Minnesota  
St. Paul, MN 55108

612-625-2767

Soil organic matter; water quality; humic  
substances; nitrate pollution.

Clemence, Roger D.  
 Professor  
 Department of Architecture & Landscape  
 Architecture  
 110 Architecture  
 University of Minnesota  
 Minneapolis, MN 55455 612-624-4550

Aesthetic dimensions of water in the  
 landscape; ecological issues.

Cohen, Yosef  
 Assistant Professor  
 Department of Fisheries and Wildlife  
 200 Hodson Hall  
 University of Minnesota  
 St. Paul, MN 55108 612-624-2255

System analysis; application of control  
 theory.

Cohn, Sheree L.  
 Assistant Professor, Aquatic toxicology  
 Department of Biology  
 St. Cloud State University  
 St. Cloud, MN 56301 612-255-4911

Herbicide toxicity; sublethal stress to  
 aquatic plants; submersed vegetation,  
 water quality, herbicide runoff.

Collins, Hollie L.  
 Professor  
 Department of Biology  
 University of Minnesota - Duluth  
 Duluth, MN 55812 218-726-7259

Animal behavior; fish biology;  
 aquaculture; predator/prey dynamics of  
 Lake Superior fishes; aquaculture of the  
 Ribbon (boat) leech.

Collins, Thomas W.  
 Professor  
 Department of Biology  
 Moorhead State University  
 Moorhead, MN 56560 218-236-2361

Ichthyology; fish biology; limnology

Condon, Patrick M.  
 Assistant Professor  
 Department of Horticultural Science & Landscape  
 Architecture  
 110 Architecture  
 University of Minnesota  
 Minneapolis, MN 55455 612-624-6313

Design landscape space topology; climate issues;  
 aquifer protection at municipal level.

Cotter, James F.P.  
 Associate Professor  
 Department of Science and Mathematics  
 University of Minnesota - Morris  
 Morris, MN 56267 218-589-2211

Glacial geology; quaternary stratigraphy;  
 quaternary palynology; hydrology;  
 paleobotany/limnology.

Craig, William J.  
 Assistant Director  
 Center for Urban & Regional Affairs  
 330 Humphrey Center  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-1551

Geographic information systems for Australia, New  
 Zealand and Zimbabwe; environmental and public  
 policy in Minnesota; potential for wetland biomass  
 development.

Cushing, Edward J.  
 Professor  
 Department of Ecology & Behavioral Biology  
 213 Zoology  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-9415

Quaternary paleoecology; plant ecology;  
 paleolimnology; glacial geology.

Cussler, Edward L.  
Professor  
Department of Chemical Engineering  
151 Amundson Hall  
University of Minnesota  
Minneapolis, MN 55455 612-625-1596

Basic research on physical-chemical  
processes applicable to contaminant  
removal and pollution control, including  
bioseparations; gel extractions; membrane  
separations.

Davis, Margaret B.  
Regents Professor of Ecology  
Department of Ecology & Behavioral  
Biology  
109 Zoology  
University of Minnesota  
Minneapolis, MN 55455 612-625-1102

Paleoecology and paleolimnology;  
watershed-lake interactions; forest  
history.

Donohue, George A  
Professor & Head  
Rural Sociology  
58 Classroom Office Building  
University of Minnesota  
St. Paul, MN 55108 612-625-8703

Media; community; social development.

Dorland, Dianne  
Assistant Professor  
Sea Grant Extension and  
Materials Processing Engineering  
Department  
University of Minnesota  
Duluth, MN 55812 218-726-7126

Hazardous materials processing; hazardous  
materials effect on groundwater quality;  
interaction of groundwater quality with  
Lake Superior.

Dowdy, Robert H.  
Professor  
Department of Soil Science and  
Research Leader, U.S. Department of Agriculture  
439 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-7058

Soil chemistry; conservation tillage.

Downing, William L.  
Professor  
Department of Biology  
Hamline University  
St. Paul, MN 55104 612-641-2255

Zoology; unionid mussels of northeastern Minnesota  
and their relationship to acidic precipitation.

Dreyer, Kirt A.  
Professor  
Department of Chemistry  
Bemidji State University  
Bemidji, MN 56601 218-755-2791

Inorganic chemistry.

Dunbar, Wayne E.  
Professor  
Department of Chemistry  
Winona State University  
Winona, MN 55987 507-457-5296

Analytical chemistry; plasma emission; metal  
analysis; industrial problem solving associated  
with effluent waters.

Easter, K. William  
Professor  
Department of Agricultural and Applied Economics  
317G Classroom Office Bldg.  
University of Minnesota  
St. Paul, MN 55108 612-625-7728

Water resource management in the U.S. and in Asia;  
benefit/cost analysis including investment  
strategies for different natural resource systems  
such as watersheds; and water pollution problems in  
the U.S. with particular emphasis on agricultural  
pollution.

Eberlein, Charlotte E.  
 Assistant Professor  
 Department of Agronomy & Plant Genetics  
 411 Borlaug Hall  
 University of Minnesota  
 St. Paul, MN 55108 612-625-8237

Weed control, herbicides; management techniques to reduce herbicide contamination of groundwater.

Eckert, Ernst R.  
 Regents Professor Emeritis  
 Department of Mechanical Engineering  
 125 Mechanical Engineering  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-8010

Thermodynamics; heat transfer; water as a medium of heat transport.

Eidman, Vernon  
 Professor  
 Department of Agricultural and Applied Economics  
 231 Classroom Office Building  
 University of Minnesota  
 St. Paul, MN 55108 612-625-7028

Evaluation of information use and institutional arrangements to increase the efficiency of water use for irrigation; development of institutional arrangements to facilitate efficient reallocation of water between sectors of the economy; impacts of water reallocation on agricultural production and the economies of rural areas.

Einsweiler, Robert C.  
 Professor  
 Department of Public Affairs  
 Hubert H. Humphrey Institute  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-3533

Water policy; water resource policy, planning and management.

Eisenreich, Steven J.  
 Professor  
 Department of Civil & Mineral Engineering  
 122 Civil & Mineral Engineering  
 University of Minnesota 612-625-3082  
 Minneapolis, MN 55455 612-625-5522

Water chemistry; toxic organic pollutants; limnology; pollutant transport in Great Lakes; chemistry of wetlands; elemental cycles.

Engstrom, Daniel R.  
 Research Associate  
 Limnological Research Center  
 220 Pillsbury Hall  
 University of Minnesota  
 Minneapolis, MN 55455 612-624-5828

Paleolimnology; land/water interaction in lake development; sediment geochemistry; sediment dating and chronology.

Faber, Raymond A.  
 Associate Professor  
 Department of Biology  
 St. Mary's College  
 Winona, MN 55987 507-457-1540

Wildlife toxicology; effects of environmental contaminants on fish-eating birds, including herring gull, black tern, black-crowned night heron, and double-crested cormorant; effects of dietary lead on tundra swans.

Falk, Laurence L.  
 Professor & Chair  
 Department of Sociology and Social Work  
 Concordia College  
 Moorhead, MN 56560 218-299-3545

Socio-economic costs of lake studies; study of Cheyenne River Basin regarding floodplains, farming practices, drainage, impacts on the river; agricultural impacts of prairie potholes; environmental impact studies; wildlife impact.

Farber, Daniel A.  
Professor  
Law School  
350 Law Center  
University of Minnesota  
Minneapolis, MN 55455

612-625-1022

Clean water act; environmental impacts  
statements; toxic pollution; hazardous waste  
disposal.

Farell, Cesar  
Professor  
Department of Civil and Mineral Engineering  
and  
St. Anthony Falls Hydraulic Laboratory  
Mississippi River at 3rd Ave. S.E.  
University of Minnesota  
Minneapolis, MN 55414

612-625-0053  
612-627-4598

Flow effects on structures; wind engineering;  
turbulence; wave theory; theory of models;  
small-scale hydropower.

Feldman, David L.  
Assistant Professor  
Department of Political Science  
Moorhead State University  
Moorhead, MN 56560

218-236-2943

Public policy; pollution control;  
environmental impact assessment.

Firling, Conrad E.  
Associate Professor  
Department of Biology  
315 Life Science Building  
University of Minnesota  
Duluth, MN 55812

218-726-7270

Acid stress; acid stress on reproductive  
hormones on fish; acid stress estradiol  
levels; blood chemistry on hematology of fish;  
aluminum toxicology.

Fremling, Calvin R.  
Professor  
Department of Biology  
Winona State University  
Winona, MN 55987

507-457-5276

Ecology of Mississippi River; biology of mayflies;  
fisheries biology; lake reclamation.

Fritz, Sherilyn C.  
Research Associate  
Limnological Research Center  
220 Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455

612-624-5828

Reconstruction of lake history including lake  
acidification; water level fluctuations and trophic  
state using sedimentary diatom analysis.

Fruin, Jerry E.  
Associate Professor  
Department of Agricultural & Applied Economics  
316 Classroom Office Building  
University of Minnesota  
St. Paul, MN 55108

612-625-8720

User charges; transportation - barging, channel  
depths, energy consumption of water carriers, bulk  
commodity movement.

Geankoplis, Christie J.  
Professor  
Department of Chemical Engineering  
235 Amundson Hall  
University of Minnesota  
Minneapolis, MN 55455

612-625-1586

Unit processes, transport phenomena, chemical and  
biochemical engineering.

Gelpe, Marcia R.  
Professor of Law  
William Mitchell College of Law  
875 Summit Ave.  
St. Paul, MN 55105

612-227-9171

Environmental Law

Gerlach, Luther P.  
Professor of Anthropology  
Adjunct Professor, Humphrey Institute of  
Public Affairs  
Department of Anthropology  
215 Ford Hall  
Minneapolis, MN 55455 612-625-5542

Social-cultural factors in the  
acceptability of controversial  
technologies and the management of common  
resources; approaches to siting and  
operating potentially hazardous  
technologies; managing the environmental  
impacts of these technologies.

Gersmehl, Philip J.  
Professor  
Department of Geography  
414 Social Science  
University of Minnesota  
Minneapolis, MN 55455 612-625-0805

Nutrient cycle modelling; non-point  
pollution control; geographic information  
systems; cartography.

Gilbertson, Donald E.  
Professor & Director  
Bell Museum of Natural History  
300 Bell Museum  
University of Minnesota  
Minneapolis, MN 55455 612-624-2596

Biology of freshwater snails; host-  
parasite relationships.

Glaser, Paul H.  
Research Associate  
Limnological Research Center  
220 Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455 612-624-5828

Development of boreal peatlands;  
groundwater/surface water interactions.

Gleason, Florence K.  
Assistant Professor  
Gray Freshwater Biological Institute  
University of Minnesota  
P.O. Box 100  
Navarre, MN 55392 612-471-9070

Aglal metabolites and toxins; biochemistry of  
aquatic plants.

Goldstein, Richard J.  
Professor and Head  
Department of Mechanical Engineering  
125 Mechanical Engineering  
University of Minnesota  
Minneapolis, MN 55455 612-625-0705

Heat transfer; thermodynamics; fluid mechanics.

Gorham, Eville  
Regents' Professor of Ecology & Botany  
Department of Ecology and Behavioral Biology  
208 Zoology  
University of Minnesota  
Minneapolis, MN 55455 612-625-4407

Limnology; ecology; biogeochemistry; wetland  
ecology; effects of acid deposition.

Goyal, Sagar M.  
Associate Professor of virology  
Department of Veterinary Diagnostic Investigation  
University of Minnesota  
St. Paul, MN 55108 612-625-2714

Fate and transport of viruses in groundwater and  
soil; viral pollution of marine environment;  
methods for detection of viruses in water; impact  
of drug-resistant bacteria in the environment;  
health effects of water pollution.

Greenley, Douglas A.  
Associate Professor  
Department of Economics  
Moorhead State University  
Moorhead, MN 56560 218-236-4029

Water quality; economics of water quality;  
recreational use as pertains to water.

Grew, Priscilla  
Professor  
Department of Geology & Geophysics &  
Director, Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-627-4799

Groundwater; hydrogeology.

Grigal, David F.  
Professor  
Department of Soil Science  
439 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-4232

Nutrient cycling; soil acidification;  
forest soils.

Gulliver, John S.  
Assistant Professor  
Department of Civil and Mineral  
Engineering and  
St. Anthony Falls Hydraulic Laboratory  
University of Minnesota 612-627-4600  
Minneapolis, MN 55455 612-625-2308

Hydraulics; air-water transport of mass,  
momentum and energy, turbulent transport  
in rivers; hydraulic structures;  
hydropower.

Gundersen, Ralph W.  
Professor  
Department of Biology  
St. Cloud State University  
St. Cloud, MN 56301 612-255-4136

Taxonomy; behavior of aquatic insects  
with emphasis on standing water.

Gunderson, Jeffrey L.  
Associate Professor & Area Extension  
Agent  
Sea Grant Extension  
208 Washburn Hall  
University of Minnesota  
Duluth, MN 55812 218-726-8106

Great Lakes Fishery; seafood utilization;  
sport/commercial fishing; aquaculture.

Gupta, Satish Chander  
Associate Professor  
Department of Soil Science  
146 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-1241

Soil hydraulic properties; modeling flow of water  
and contaminants through soil; climatic patterns  
and their effects on soil water storage; soil  
structure (compaction and tillage); waste  
application to land.

Hanson, Richard  
Professor of Microbiology  
Director, Gray Freshwater Biological Institute  
P.O. Box 100  
County Roads 15 & 19  
Navarre, MN 55392 612-471-8476

Genetics; biochemistry and ecology of bacteria that  
grow on one-carbon compounds and their roles in  
natural carbon cycles.

Hatch, Jay T.  
Assistant Professor  
General College, Biological Science  
106 Nicholson Hall  
Minneapolis, MN 55455 612-625-9346

Distribution and ecology of Minnesota fishes;  
ecology of larval fishes.

Henney, Robert  
Professor  
Department of Chemistry  
Mankato State University  
Mankato, MN 56001 507-389-1718

Chemical and biological processes.

Hershey, Anne E.  
Assistant Professor  
Department of Biology  
University of Minnesota  
Duluth, MN 55812 218-726-8200

Benthic ecology; invertebrate communities of lakes  
and streams; particularly effects of predators.

Hicks, Randall E.  
Assistant Professor  
Department of Biology  
University of Minnesota  
Duluth, MN 55812

218-726-8134

Aquatic microbial ecology; extracellular  
polymers; chemical markers of biological  
processes; nitrogen cycling; microbial  
attachment; detrital dynamics.

Hill, Gerry J.C.  
Professor  
Department of Biology  
Carleton College  
Northfield, MN 55057

507-663-4393

Physiology of freshwater algae; chemical  
communication systems; aquatic biology;  
aquatic fungi.

Holden, John B., Jr.  
Professor  
Department of Chemistry  
Mankato State University  
Box 40  
Mankato, MN 56001

507-389-6454

Analytical Chemistry; heavy metals; metal  
analysis; atomic absorption  
spectrophotometry.

Holmstrand, Linda L.  
Associate Professor  
Department of Biology  
University of Minnesota  
Duluth, MN 55812

218-726-8201

Aquatic ecology; aquaculture of bait  
leeches.

Holt, Charles S.  
Professor  
Department of Biology &  
Coordinator, Aquatic Biology Program  
Bemidji State University  
Bemidji, MN 56601

218-755-2877

Stream ecology; eutrophication;  
biotelemetry of fish.

Hopwood, Alfred J.  
Professor  
Department of Biological Sciences  
St. Cloud State University  
St. Cloud, MN 56301

612-255-2059

Aquatic biology; limnology of flowing systems and  
use of water in power generation.

Hornbach, Daniel J.  
Assistant Professor  
Department of Biology  
Macalester College  
1600 Grand Ave.  
St. Paul, MN 55105

612-696-6101

Benthic ecology; freshwater bivalves; physiological  
ecology; life history evolution; freshwater  
mollusks; backwater lakes.

Hoyer, Marcus  
Scientist  
Minnesota Geological Survey  
2642 University Ave.  
University of Minnesota  
St. Paul, MN 55114-1057

612-627-4795

Quaternary geology; geomorphology; engineering  
geology; hydrogeology; aquifer thermal energy  
storage.

Ibele, Warren E.  
Professor  
Department of Mechanical Engineering  
125 Mechanical Engineering  
University of Minnesota  
Minneapolis, MN 55455

612-625-7527

Thermodynamics; transport properties of water in  
all its forms.



Jannik, Nancy Olga  
Assistant Professor  
Department of Geology  
Winona State University  
Winona, MN 55987

507-457-5267

Interaction of groundwater and  
contaminants in Minnesota;  
hydrogeochemistry; use of radio- and  
stable isotopes to determine groundwater  
and contaminant movement; radioisotope  
dating of groundwater; water well siting  
and development; landfill siting; water  
supply problems; numerical modeling of  
groundwater flow; impacts of drawdown or  
recharge; chemical evolution of  
groundwater.

Jirsa, Mark A.  
Scientist/Geologist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114

612-627-4798

Mapping of Paleozoic aquifers in 7-county  
metropolitan area; Twin Cities artesian  
basin stratigraphy, structure and bedrock  
topography.

Johnson, Mark Dale  
Assistant Professor  
Department of Geology  
Gustavus Adolphus College  
St. Peter, MN 56082

507-931-7442

Glacial geology; surface and groundwater  
problems; sedimentology.

Johnston, Carol A.  
Research Associate  
Natural Resources Research Institute  
University of Minnesota  
Duluth, MN 55811

218-720-4269

Wetland ecology.

Kanazawa, Mark T.  
Instructor  
Department of Economics  
Carleton College  
Northfield, MN 55454

507-663-4106

Estimating agricultural water demand; integrating  
ground waterhydrology into model of water demand;  
water supply policy assessment of U.S. Bureau of  
Reclamation.

Kanivetsky, Roman  
Senior Scientist - Hydrogeologist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114-1057

612-627-4784

Groundwater investigations in Asia, Europe and the  
U.S; ground-water exploration and development;  
water resources evaluation; energy storage,  
engineering use of underground space; analysis and  
modeling of groundwater and contaminant flows from  
waste disposal and spills; monitoring and field  
techniques; geologic and hydrologic hazards.

Kapuscinski, Anne R.  
Assistant Professor  
Department of Fisheries & Wildlife  
130 Hodson Hall  
University of Minnesota  
St. Paul, MN 55108

612-624-2720

Fish culture (especially salmon and trout) and  
genetics of fisheries resources; aquaculture  
development (especially for cold climates);  
integration of aquaculture with natural resource  
management; quantitative genetics of fisheries  
populations and genetic engineering of fish.

Killen, John M.  
Research Associate  
St. Anthony Falls Hydraulic Laboratory  
University of Minnesota  
Mississippi River at 3rd Ave. S.E.  
Minneapolis, MN 55414

612-627-4597

Polymer flows; cavitation noise; instrumentation;  
cavitation.

Kingston, John C.  
Research Associate  
Department of Geology  
229 Math-Geology  
University of Minnesota  
Duluth, MN 55812 218-726-7563

Freshwater algae; phytoplankton; water  
pollution; nutrients; acid rain.

Kitts, James R.  
Extension Wildlife and Fisheries  
Specialist  
Department of Fisheries & Wildlife  
216 Hodson Hall  
University of Minnesota  
St. Paul, MN 55108 612-624-3298

Farm pond management; youth work.

Kleist, Steve  
Instructor, Water Resources Technology  
Vermilion Community College  
Ely, MN 55731 218-365-3256

Water resources technology; advanced  
wastewater treatment; phosphorus removal;  
lake eutrophication; water pollution  
control; environmental management.

Klemer, Andrew R.  
Associate Professor  
Department of Biology  
University of Minnesota  
Duluth, MN 55108 218-726-8864

Aquatic ecology; experimental limnology;  
physiological ecology of phytoplankton,  
phytoplankton succession, distribution,  
and depth regulation.

Knutson, Keith M.  
Department of Biological Sciences  
St. Cloud State University  
St. Cloud, MN 56301 612-255-2194

Water quality management; lake nutrient loading;  
phytoplankton ecology; river periphyton taxonomy;  
lake responses to nutrient inputs; reducing  
nutrient runoff; best management practices for  
nonpoint sources of nutrients.

Kreag, Glenn  
Assistant Professor and Area Extension Agent  
Sea Grant Extension  
208 Washburn Hall  
University of Minnesota  
Duluth, MN 55812 218-726-8106

Tourism and recreation development of coastal  
resources.

Kreevoy, Maurice M.  
Professor  
Department of Chemistry  
University of Minnesota  
Minneapolis, MN 55455 612-624-2501

Chemical kinetics; kinetics of ion transport across  
solid supported liquid membranes; nitrate removal  
from domestic water; dynamics of chemical and  
transport processes.

Krzyzaniak, Dennis  
Professor  
Department of Chemistry  
Moorhead State University  
Moorhead, MN 56560 612-236-2277

Analysis of organic and inorganic contaminants in  
water.

Kuehn, Thomas H.  
Associate Professor  
Department of Mechanical Engineering  
125 Mechanical Engineering  
University of Minnesota  
Minneapolis, MN 55455 612-625-4520

Water chemistry; sampling; lake water quality.

LaChapelle, Arthur W.  
Adjunct Instructor  
Department of Civil & Mineral Engineering  
University of Minnesota  
1489 Energy Park Drive  
St. Paul, MN 55108-5204 612-645-9651

Water and environmental law.

Lammers, Roberta K.  
Associate Professor  
Department of Biology  
Augsburg College  
731 21st Ave. S.  
Minneapolis, MN 55455 612-330-1000

Wetlands; plant and insect communities.

Larson, William E.  
Professor & Head  
Department of Soil Science  
435 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-9734

Infiltration and runoff; water quality as  
affected by agricultural chemicals; soil  
management for protection of water  
quality.

Latterell, Joseph J.  
Professor  
Department of Chemistry  
University of Minnesota, Morris  
Morris, MN 56267 612-589-3259

Trace metal movement in soil and  
availability to plants from sewage sludge  
applications; distribution of phosphorus  
in soil irrigated with wastewater  
effluent; assessment of lake improvement  
from diversion of septic tank effluent.

Lichty, Richard W.  
Professor  
Department of Economics  
University of Minnesota  
Duluth, MN 55812 218-726-7219

Regional economics; input-output  
modeling; regional economic development.

Linden, Dennis  
Associate Professor and  
Research Soil Scientist  
Department of Soil Science & US Department of  
Agriculture  
170 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-6798

Infiltration; soil macropores and earthworms

Lively, Richard S.  
Scientist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-625-5369

Uranium series isotopes in groundwater.

Lodge, Keith B.  
Research Associate  
Natural Resources Research Institute  
University of Minnesota  
Duluth, MN 55811 218-720-4316

Theoretical and surface chemistry.

Lundberg, Kenneth R.  
Professor  
Department of Chemistry  
Bemidji State University  
Bemidji, MN 56601 218-755-2784

Water quality associated with wild rice culture.

Machmeier, Roger E.  
Professor & Extension Agricultural Engineer  
Department of Agricultural Engineering  
University of Minnesota  
St. Paul, MN 55108 612-625-9733

Onsite sewage treatment systems.

Mackellar, William J.  
Associate Professor  
Department of Chemistry  
Concordia College  
Moorhead, MN 56560

612-299-3571

Analytical methods development;  
environmental pollutant analysis;  
electroanalytical methods;  
chromatographic methods.

Maier, Walter J.  
Professor  
Department of Civil & Mineral Engineering  
122 Civil & Mineral Engineering  
University of Minnesota  
Minneapolis, MN 55455

612-625-3016

Biodegradation of chlorinated organic  
compounds; municipal waste and water  
treatment; biological treatment  
processes; microbial growth kinetics.

Maki, Wilbur R.  
Professor  
Agriculture & Applied Economics  
248 Classroom Office Building  
University of Minnesota  
St. Paul, MN 55108

612-625-6237

Ecological-economic modeling for  
representing water using and damaging  
sectors of the economy; natural resources  
development affected by and affecting  
water quality and use; recreational  
benefits of water quality management.

Malzer, Gary L.  
Associate Professor  
Department of Soil Science  
University of Minnesota  
St. Paul, MN 55108

612-625-6728

Soil fertility and chemistry; efficiency  
of fertilizer use; movement, use and  
redistribution of fertilizer nutrients  
(especially nitrogen) in soil, plants,  
and groundwaters as influenced by  
agricultural practices.

Martin, Frank B.  
Associate Professor  
Department of Applied Statistics  
353 Classroom Office Building  
University of Minnesota  
St. Paul, MN 55108

612-625-4214

Designing experiments; sample survey plans;  
regression analysis; statistical methods.

Martin, Roger B.  
Professor and Chairman  
Department of Architecture & Landscape Architecture  
110 Architecture  
University of Minnesota  
Minneapolis, MN 55455

612-625-7099

Recreation/tourist impact on natural systems,  
including water bodies; surface runoff patterns and  
shoreline zoning in regard to recreational facility  
placement. Visual impact assesment of water policy  
regulations on the Minnesota landscape.

Mason, Charles P.  
Professor  
Department of Biology  
Gustavus Adolphus College  
St. Peter, MN 56082

507-931-7324

Physiological ecology of algae; Minnesota algae.

Mathiason, Dennis  
Chairman  
Department of Chemistry  
Moorhead State University  
Moorhead, MN 56560

218-236-2138

Water quality studies; sanitary landfill  
monitoring; wastewater characterization and  
abatement work.

Matsch, Charles L.  
Professor  
Department of Geology  
University of Minnesota - Duluth  
Duluth, MN 55812

218-726-7586

Mapping of quaternary deposits; sedimentology of  
glacial deposits; glaciomarine sediments; pre-  
Pleistocene glaciations in Antarctica and U.S.

McConville, David R.  
Professor  
Department of Biology  
Saint Mary's College  
Winona, MN 55987 507-457-1542

Hydrology; water quality; benthic organisms; fish populations; fish management; aquatic macrophytes.

McDonald, Michael E.  
Research Associate Scientist  
Natural Resources Research Institute  
University of Minnesota  
3151 Miller Trunk Highway  
Duluth, MN 55811 218-720-4264

Toxic substance and hazardous waste management; drinking water contaminants and human health effects; applications of biological systems to wastewater treatment; fisheries ecology; great lake ecosystem dynamics; structuring mechanisms for lake and stream biotic communities.

McKone, Mark  
Professor  
Department of Biology  
Carleton College  
Northfield, MN 55057 507-663-4393

Aquatic ecology.

McNaught, Donald C.  
Professor of Ecology  
Department of Ecology and Behavioral Biology and Director  
Sea Grant College Program  
116 Classroom Office Bldg.  
University of Minnesota 612-625-7425  
St. Paul, MN 55108 612-625-2765

Coordination of aquatic research, management of interdisciplinary research involving biological, physical, chemical and economic aspects of large lake ecosystems; zooplankton of the Laurentian Great Lakes, including their functional responses to toxic chemicals, grazing and migratory behavior and community

structure; application of research results Great Lakes problems identified by such agencies as the International Joint Commission and the Environmental Protection Agency.

Robert O. Megard  
Professor  
Department of Ecology and Behavioral Biology  
107 Zoology  
University of Minnesota  
Minneapolis, MN 55455 612-625-4610

Photosynthesis in planktonic algae.

Melchior, Robert C.  
Professor  
Department of Geology  
Bemidji State University  
Bemidji, MN 56601 218-755-2782

Paleolimnology; reconstruction of ancient watersheds and paleohydrology through pollen analysis; glacial stratigraphy.

Meyer, Gary N.  
Geologist, Scientist  
Minnesota Geological Survey  
2642 University Ave.  
St. Paul, MN 55114 612-627-4796

Subsurface stratigraphy of glacial sediments in the Twin Cities area, and central and northern Minnesota.

Molina, Jean Alex  
Professor  
Department of Soil Science  
264 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-6259

Carbon and nitrogen flow; computer simulation modeling; microbial biomass determination.

Moncrief, John F.  
Associate Professor  
Department of Soil Science  
162 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-2771

Affects of conservation tillage on  
groundwater and surface water.

Monson, Paul H.  
Professor and Curator  
Olga Lakela Herbarium  
Department of Biology  
University of Minnesota - Duluth  
Duluth, MN 55812 218-726-8110

Aquatic macrophytes; taxonomy.

Moon, Roger D.  
Associate Professor  
Department of Entomology  
219 Hodson Hall  
University of Minnesota  
St. Paul, MN 55108 612-924-2209

Mosquito ecology.

Moore, Ian D.  
Assistant Professor  
Department of Agricultural Engineering  
213 Agricultural Engineering  
University of Minnesota  
St. Paul, MN 55108 612-625-6770

Infiltration modeling; subsurface flow;  
hydrologic and water quality modeling;  
digital terrain modeling.

Morey, Glenn. B.  
Associate Director & Chief Geologist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-627-4810

Stratigraphy; sedimentology and natural  
resources of Minnesota and the Lake  
Superior region.

Mossler, John H.  
Scientist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-627-4805

Paleozoic rocks in southeastern Minnesota;  
stratigraphy and sedimentation

Munson, Bruce H.  
Assistant Professor & Area Extension Agent  
Sea Grant Extension  
208 Washburn Hall  
University of Minnesota  
Duluth, MN 55812 218-726-8106

Developing aquatic education programs for youth;  
developing programs and materials for teachers  
regarding aquatic environment.

Munter, Robert C.  
Assistant Professor  
Department of Soil Science  
135 Crops Research  
University of Minnesota  
St. Paul, MN 55108 612-625-7701

Soil testing; analytical services in the area of  
water, plant, soil and food areas.

Naiman, Robert J.  
Director  
Natural Resources Research Institute  
NRRI  
University of Minnesota  
Duluth, MN 55812 612-720-4279

Aquatic ecology; nutrient and mineral cycles;  
surface water quality.

Nassauer, Joan I.  
Associate Professor  
Department of Horticultural Science & Landscape  
Architecture  
305 Alderman Hall  
University of Minnesota  
St. Paul, MN 55108 612-624-7216

Landscape perception; geographic information  
systems; regional planning; public preference;  
rural and coastal landscapes.

Neckar, Lance M.  
 Assistant Professor  
 Department of Horticultural Science &  
 Landscape Architecture  
 432 Alderman Hall  
 University of Minnesota  
 St. Paul, MN 55108 612-624-3259

Stormwater management and runoff;  
 decorative uses of water in landscaping.

Nelson, Charles L.  
 Professor  
 Department of Earth Sciences  
 St. Cloud State University  
 St. Cloud, MN 56301 612-255-4246

Hydrology; groundwater; geohydrology;  
 physical limnology; lake currents;  
 beaches; beach erosion; sedimentology.

Nieber, John L.  
 Associate Professor  
 Department of Agricultural Engineering  
 University of Minnesota  
 St. Paul, MN 55108 612-625-6724

Hydrologic modeling; groundwater quality;  
 flow in porous media; drainage of  
 agricultural lands.

Nielsen, Dennis N.  
 Dean of Science & Technology  
 Winona State University  
 Winona, MN 55987 507-457-5014

Quaternary hydrology; fluvial  
 geomorphology.

Niemi, Gerald L.  
 Research Associate  
 Natural Resources Research Institute  
 University of Minnesota  
 Duluth, MN 55811 218-720-4270

Environmental biology.

Noetzel, David M.  
 Associate Professor and  
 Extension Entomologist  
 Department of Entomology  
 219 Hodson Hall  
 University of Minnesota  
 St. Paul, MN 55108 218-624-9272

Environmental issues; economic entomology;  
 integrated pest management.

Nord, Bruce A.  
 Associate Professor  
 Department of Sociology and Anthropology  
 101 Camden  
 University of Minnesota  
 Morris, MN 55267 612-589-2211

Assessment of socio-economic, recreational value of  
 lower Pomme De Terre watershed (river).

Nord, Douglas C.  
 Associate Professor & Director  
 Department of Political Science & International  
 Studies  
 305 Cina Hall  
 University of Minnesota - Duluth  
 Duluth, MN 55812 218-726-8220

Water resources of the Great Lakes; Interbasin  
 transfer of water; diversion of Canadian water  
 resources; Ontario-Minnesota boundary waters  
 disputes.

Oehlert, Gary W.  
 Assistant Professor  
 Department of Applied Statistics  
 353 Classroom Office Building  
 University of Minnesota  
 St. Paul, MN 55108 612-625-4758

Methods for trend analysis of geophysical time  
 series (e.g. acid rain and stratospheric ozone).

Olin, Peter J.  
Professor  
Department of Horticultural Science &  
Landscape Architecture &  
Director, Minnesota Landscape Arboretum  
3675 Arboretum Drive  
Box 39  
University of Minnesota  
Chanhassen, MN 55317 612-443-2460

Landscape design with water.

Olness, Alan E.  
Soil Scientist  
North Central Soil Conservation Research  
Laboratory  
Morris, MN 56267 612-589-3411

Management systems to improve fertilizer  
use efficiency; soil nitrogen losses from  
denitrification; efficiency of residue-  
nitrogen use as affected by tillage and  
residue management; factors inhibiting  
adoption of soil conserving management  
systems.

Olsen, Bruce M.  
Geologist  
Minnesota Geological Survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-627-4808

Subsurface data; water well information;  
county geologic studies; statewide  
groundwater information systems.

Olsen, Dale W.  
Professor & Coordinator  
Urban & Regional Studies Program  
307 Cina Hall  
University of Minnesota  
Duluth, MN 55812 218-726-8164

Environmental policy in Minnesota; state  
politics related to water; downtown  
waterfront planning in Duluth.

Onstad, Charles A.  
Location Coordinator - Research Leader  
North Central Soil Conservation Laboratory  
Morris, MN 56267 612-589-3411

Watershed hydrology; conservation tillage; erosion  
mechanics.

Palen, Barbara M.  
Assistant Scientist  
Minnesota Geological survey  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-627-4788

Groundwater geology of Minnesota; relationships  
between climate and groundwater resources.

Paola, Christopher  
Assistant Professor  
Department of Geology & Geophysics  
108 Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455 612-625-8025

Sediment transport; river mechanics; braided  
rivers; gravel.

Parker, Gary  
Professor  
Department of Civil & Mineral Engineering  
St. Anthony Falls Hydraulic laboratory  
Mississippi River at 3rd Ave. S.E. 612-625-2883  
Minneapolis, MN 55455 612-627-4596

River mechanics and sediment transport.

Parson, Charles G.  
Professor  
Department of Geography  
Bemidji State University  
Bemidji, MN 56601 218-755-3196

Fluvial geomorphology; survey research; geographic  
information systems.



Pastor, John  
 Research Associate  
 Natural Resources Research Institute  
 University of Minnesota  
 Duluth, MN 55811 218-720-4261

Forest and wetland ecology.

Patankar, Suhas V.  
 Professor  
 Department of Mechanical Engineering  
 125 Mechanical Engineering  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-6302

Computer solutions in fluid mechanics.

Perry, James  
 Associate Professor  
 Department of Forest Resources and  
 Director, Center for Natural Resource  
 Policy and Management  
 University of Minnesota  
 110 Green Hall  
 St. Paul, MN 55108 612-624-9796

Leaf litter production in forests;  
 decomposition and nutrient cycling in  
 aquatic systems; structural and  
 functional responses of ecosystems and  
 communities to stress in aquatic  
 environments; the role of water quality  
 in international development; design and  
 interpretation of water quality  
 monitoring programs in developing  
 countries.

Peterson, Jerrold M.  
 Professor  
 Department of Economics  
 University of Minnesota  
 Duluth, MN 55812 218-726-8243

Evaluating water resources at state and  
 national level relative to water quality  
 and costs of environmental damage.

Pfannkuch, Hans-Olaf  
 Professor  
 Department of Geology & Geophysics  
 University of Minnesota  
 110 Pillsbury Hall  
 Minneapolis, MN 55455 612-624-1620

Contaminant hydrology; hazardous wastes and  
 hydrocarbons; transport phenomena in porous media.

Pitt, David  
 Associate Professor  
 Department of Horticulture & Landscape Architecture  
 305 Alderman Hall  
 University of Minnesota  
 St. Paul, MN 55108 612-624-5300

Policy adoption; landscape perception; public  
 preference; rural and coastal landscapes.

Poe, Donald P.  
 Associate Professor  
 Department of Chemistry  
 134 Chem  
 University of Minnesota  
 Duluth, MN 55812 218-726-7217

Analytical chemistry; analysis of natural waters  
 for organic contaminants.

Porter, Philip W.  
 Professor  
 Department of Geography  
 414 Social Science  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-4085

Energy and water balances; agricultural climatology  
 of East Africa; photosynthesis.

Prince, J. David  
 Professor of Law  
 William Mitchell College of Law  
 875 Summit Ave.  
 St. Paul, MN 55105 612-227-9171

Natural resource and environmental law; water  
 research and water quality management.

Pui, David Y.  
Associate Professor  
Department of Mechanical Engineering  
125 Mechanical Engineering  
University of Minnesota  
Minneapolis, MN 55455 612-625-2537

Particulates; filtration.

Quade, Henry W.  
Professor  
Department of Biology  
Box 34  
Mankato State University  
Mankato, MN 56001 507-389-2786

Regional limnology, wetland ecology and lake eutrophication in south-central Minnesota; river continuism theory in relation to agricultural drainage systems; agricultural impacts on water quality; impacts of small hydroelectric dams; county water planning.

Raab, Raymond L.  
Professor  
Department of Economics  
University of Minnesota - Duluth  
Duluth, MN 55812 218-726-8508

Recreation demand modeling; recreational water valuation.

Randall, Gyles W.  
Professor and Soil Scientist  
Southern Experiment Station  
University of Minnesota  
Waseca, MN 56093 507-835-3620

Crop production as influenced by soil fertility and tillage with emphasis on environmental aspects of nutrients, especially nitrogen; nitrate movement through soil and losses to tile drainage waters.

Rapp, George R.  
Dean & Professor  
College of Science & Engineering  
108 MG  
University of Minnesota  
Duluth, MN 55812 218-726-7971

Watershed geochemistry; rock weathering; aqueous inorganic geochemistry.

Rehm, George W.  
Associate Professor & Extension Specialist  
Department of Soil Science  
Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-6210

Soil fertility; plant nutrition; fertilizer management; nitrate and groundwater quality.

Reicosky, Donald. C.  
Soil Scientist  
North Central Soil Conservation Research Center  
Morris, MN 56267 612-589-3411

Water uptake by plants under field conditions; plant response to deep tillage; improved management practices for increased water use efficiency; evaluation of plant response to tillage and irrigation.

Roberts, Marilynne K.  
Associate Professor of Law  
Hamline University Law School  
1536 Hewitt Ave.  
St. Paul, MN 55104 612-641-2123

Legal regulations of aquatic systems; acid rain; water quality as opposed to water quantity; environmental law resources.

Robinson, Robert A.  
Professor  
Department of Large Animal Clinical Sciences  
College of Veterinary Medicine  
425 Veterinary Teaching Hospital  
University of Minnesota  
St. Paul, MN 55108 612-625-7260

Water borne disease as related to human and animal health.

Runge, Carlisle F.  
Associate Professor  
Department of Agricultural & Applied  
Economics  
332 Classroom Office Building  
University of Minnesota  
St. Paul, MN 55108

612-625-9208

Agricultural policy; soil and water  
conservation; land use.

Savina, Mary E.  
Assistant Professor  
Department of Geology  
Carleton College  
Northfield, MN 55454

507-663-4400

Geomorphology; quaternary geology.

Seeley, Mark W.  
Associate Professor & Extension  
Agricultural Climatologist  
Department of Soil Science  
S335 Soils Building  
University of Minnesota  
St. Paul, MN 55108

612-625-4724

Agricultural meteorology; remote sensing;  
natural resources.

Semmens, Michael  
Associate Professor  
Department of Civil & Mineral Engineering  
122 Civil & Mineral Engineering  
University of Minnesota  
Minneapolis, MN 55455

612-625-9857

Physico-chemical processes for treatment  
of water and wastewater; ion-exchange and  
membrane technologies for removal and  
recovery of heavy metals and other toxic  
wastes.

Setterholm, Dale R.  
Geologist  
Minnesota Geological Survey  
2642 University Ave.  
University of Minnesota  
St. Paul, MN 55114

612-627-4786

Borehole and water-well geophysics

Seyfried, William E.  
Associate Professor  
Department of Geology and Geophysics  
110 Pillsbury hall  
University of Minnesota  
Minneapolis, MN 55455

612-624-0340

Aqueous geochemistry; marine chemistry;  
mineral/water interactions at high pressures and  
temperatures.

Shapiro, Joseph  
Professor & Associate Director  
Limnological Research Center  
220 Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455

612-624-0596

Lake restoration; biological phenomena; fish;  
zooplankton.

Shurr, George W.  
Professor and Chairman  
Department of Earth Sciences  
St. Cloud State University  
St. Cloud, MN 56301

612-255-2009

Cretaceous sedimentary rocks as aquifers.

Simon, Terrence W.  
Associate Professor  
Department of Mechanical Engineering  
125 Mechanical Engineering  
University of Minnesota  
Minneapolis, MN 55455

612-625-5831

Fluid mechanics; turbulent flow.

Singer, Rexford D.  
Associate Professor  
Division of Environmental and Occupational Health  
School of Public Health  
Box 197 Mayo Memorial Building  
University of Minnesota  
Minneapolis, MN 55455

612-626-0900

Health aspects of water supply systems and  
protection of ground water quality.

Skaggs, Richard H.  
Professor & Chairman  
Department of Geography  
414 Social Science  
University of Minnesota  
Minneapolis, MN 55455 612-625-6643

Climatology; statistical analysis of  
temperature and precipitation;  
fluctuations of climate.

Skurla, James A.  
Director, Bureau of Business & Economic  
Research  
150 School of Business & Economic  
Research  
University of Minnesota  
Duluth, MN 55812 218-726-6133

Benefit cost analysis; public policy;  
statistics; resource management and  
allocation.

Song, Charles C.S.  
Professor  
Department of Civil & Mineral Engineering  
and  
St. Anthony Falls Hydraulic Laboratory  
Minneapolis, MN 55414 612-627-4599

Mathematical modeling of unsteady flows  
in open channels and pipes; modeling of  
two- and three-dimensional unsteady  
flows; modeling of fluvial channel with  
sediment transport; theoretical mechanics  
based on energy principles.

Soroka, Leonard G.  
Professor  
Department of Earth Sciences  
St. Cloud State University  
St. Cloud, MN 56301 612-255-4232

Algae; lake sedimentation; freshwater  
carbonates; stromatolites.

Southwick, David L.  
Associate Chief Geologist  
Minnesota Geological Survey &  
Adjunct Associate Professor of Geology  
University of Minnesota  
2642 University Ave.  
St. Paul, MN 55114 612-627-4811

Structural geology; fracturing of rocks; geologic  
mapping.

Spangler, George R.  
Professor  
Department of Fisheries and Wildlife  
University of Minnesota  
St. Paul, MN 55108 612-524-9229

Fish population dynamics; Great Lakes fisheries,  
predator-prey interactions; fisheries management  
planning.

Spigarelli, Steven A.  
Director  
Center for Environmental Studies  
Bemidji State University  
Bemidji, MN 56601-2699 218-755-2920

Thermal ecology; radioecology; fish behavior;  
pollutant bioaccumulation.

Stadelmann, Eduard J.  
Professor  
Department of Horticultural Science & Landscape  
Architecture  
228 Alderman Hall  
University of Minnesota  
St. Paul, MN 55108 612-624-3267

Cell water relations; cell wall elasticity;  
membrane transport.

Stefan, Heinz  
Professor and Associate Director  
Department of Civil and Mineral Engineering and  
St. Anthony Falls Hydraulic Laboratory  
Mississippi River at 3rd Ave. S.E. 612-625-2810  
Minneapolis, MN 55414 612-627-4585

Hydromechanics of rivers, lakes, and reservoirs;  
mixing processes; hydraulic structures; water  
quality models.

Steinnes, Donald N.  
 Professor  
 Department of Economics  
 University of Minnesota  
 Duluth, MN 55812 218-726-7256

Economics; econometrics; economic valuation; sport fishing economics; cost benefit analysis; water recreational value.

Strack, Otto D.L.  
 Professor  
 Department of Civil & Mineral Engineering  
 122 Civil & Mineral Engineering  
 University of Minnesota  
 Minneapolis, MN 55455 612-625-3009

Groundwater mechanics and transport modeling; analytic element techniques.

Straw, Thomas E.  
 Associate Professor  
 Division of Science & Mathematics  
 University of Minnesota  
 Morris, MN 56267 612-589-2211

Distribution of aquatic bacteria.

Swackhammer, Deborah  
 Assistant Professor  
 Division of Environmental Health  
 School of Public Health  
 1260 Mayo, Box 197  
 University of Minnesota  
 Minneapolis, MN 55455 612-626-0900

Analysis; transport and fate of toxic organic contaminants in aquatic systems.

Swain, Edward B.  
 Research Associate  
 Gray Freshwater Biological Institute  
 P.O. Box 100  
 University of Minnesota  
 Navarre, MN 55392 612-471-8476

Phytoplankton; zooplankton; heavy-metal toxicity; nitrogen fixation; paleolimnology; pigment analysis; lead-210 dating.

Swan, James B.  
 Professor  
 Department of Soil Science  
 167 Borlaug Hall  
 University of Minnesota  
 St. Paul, MN 55108 612-625-3737

Tillage; soil physics.

Sykes, Robert D.  
 Assistant Professor  
 Department of Architecture & Landscape Architecture  
 110 Architecture  
 University of Minnesota  
 Minneapolis, MN 55455 612-624-9075

Site planning and site drainage with residential development.

Taff, Steven J.  
 Assistant Professor and Extension Economist  
 Agriculture Policy  
 Department of Agricultural & Applied Economics  
 231 Classroom Office Building  
 University of Minnesota  
 St. Paul, MN 55108 612-625-3103

Agricultural practices and groundwater; groundwater policy.

Thurston, David  
 Associate Professor  
 Department of Geography  
 Mankato State University  
 Mankato, MN 56001 507-389-5002

Floods and flood plain land management.

Tichenor, Phillip J.  
 Professor  
 Department of Journalism and Mass Communication  
 and Rural Sociology  
 90 Classroom Office Building  
 University of Minnesota  
 St. Paul, MN 55108 612-625-7261

Role of mass media in community development; mass media and understanding of scientific and technological issues.

Tilman, G. David  
Professor  
Department of Ecology & Behavioral  
Biology  
University of Minnesota  
Minneapolis, MN 55455

612-625-6927

Phytoplankton competition; nutrient  
control of sinking rates; zooplankton-  
phytoplankton interactions; mechanisms of  
resource competition.

Trihey, Patrick T.  
Chairman  
Department of Biology &  
Director of Water Testing Laboratory  
Bemidji State University  
Bemidji, MN 56601

218-755-2785

Environmental aspects; water systems;  
nutrient budgets in water supplies.

Underhill, James C.  
Professor  
Department of Ecology and Behavioral  
Biology and  
Curator of Fishes  
Bell Museum of Natural History  
University of Minnesota  
Minneapolis, MN 55455

612-625-6123

Distribution of fishes in relation to  
Late Pleistocene and Holocene events;  
polymorphism in the wood frog, Rana  
sylvatica; distribution and variation of  
cisco (Coregonus artedii) in Minnesota  
waters; systematics of lean and fat lake  
trout in Lake Superior.

Van Alstine, James B.  
Associate Professor  
Department of Science & Mathematics  
University of Minnesota  
Morris, MN 56267

612-589-2211

Sedimentation; paleoenvironments.

Van Amburg, Gerald L.  
Associate Professor & Chairman  
Department of Biology  
Concordia College  
Moorhead, MN 56560

218-299-3794

Structure & function of wetlands; biogeochemical  
cycling; productivity.

Verry, Elon S.  
Adjunct Assistant Professor (Forest Resources) and  
Principal Forest Hydrologist  
USDA Forest Service  
North Central Forest Experiment Station  
1831 Highway 169 East  
Grand Rapids, MN 55744

218-326-8571

Peatland hydrology; shallow water impoundments;  
forest hydrology and water quality; precipitation  
chemistry; nutrient cycling.

Voight, Richard L., Jr.  
Research Fellow  
St. Anthony Falls Hydraulic Laboratory  
University of Minnesota  
Minneapolis, MN 55455

612-627-4601

Hydropower; cavitation; environmental hydraulics.

Voorhees, Ward B.  
Soil Scientist  
North Central Soil Conservation Research  
Laboratory  
Morris, MN 56267

612-589-3411

Soil management; tillage; erosion; plant growth  
with emphasis on soil compaction effects on crop  
production.

Waelti, John J.  
Professor  
Department of Agricultural & Applied Economics  
University of Minnesota  
St. Paul, MN 55108

612-625-7737

Public policy concept of water resources; economics  
of water quality.

Wagenbach, Gary E.  
Professor  
Department of Biology  
Carleton College  
Northfield, MN 55057 507-663-4390

Biology of parasitic aquatic  
invertebrates, especially protozoa and  
trematodes; biology of symbiosis.

Wallace, Kendall B.  
Assistant Professor  
Department of Pharmacology  
University of Minnesota  
Duluth, MN 55812 218-726-8899

Chemical toxicology; health effects of  
organic contaminants.

Waters, Thomas F.  
Professor  
Department of Fisheries & Wildlife  
120 Hodson Hall  
University of Minnesota  
St. Paul, MN 55108 612-624-7430

Ecology of invertebrates and trout in  
streams; fisheries management; ecology of  
streams and rivers.

Weisberg, Sanford  
Professor  
Department of Applied Statistics  
353 Classroom Office Building  
University of Minnesota  
St. Paul, MN 55108 612-625-8777

Fishery management; growth models for  
fish.

Wetzel, Joseph M.  
Lecturer and Research Fellow  
St. Anthony Falls Hydraulic Laboratory  
University of Minnesota  
Mississippi River at 3rd Ave. S.E.  
Minneapolis, MN 55414 612-627-4584

Fluid mechanics; cavitating hydrofoils;  
measurements in dilute polymer solutions;  
turbulent boundary layers; gravity waves;

breakwaters; design of large scale cavitation  
channel; boundary layers; cooling tower models;  
transient flow; hydrodynamic design of test  
facilities, pumps; model studies on hydraulic and  
control structures.

White, Donald B.  
Professor  
Department of Horticultural Science & Landscape  
Architecture  
456 Alderman Hall  
University of Minnesota  
St. Paul, MN 55108 612-624-9206

Turf grass specifications, water stress.

Whiteside, Melbourne C.  
Professor  
Department of Biology  
University of Minnesota  
Duluth, MN 55812 612-726-7263

Aquatic - littoral zooplankton-larval fish  
interactions, predation, community organization.

Williams, Steven F.  
Professor  
Department of Biological Sciences  
St. Cloud State University  
St. Cloud, MN 56301 612-255-4255

Fisheries Biology

Wood, John M.  
Professor  
Gray Freshwater Biological Institute  
PO Box 100  
Navarre, MN 55392 612-471-7777

Metal contamination of water; problems of  
acidification of water.

Wood, Thomas J.  
Program Director  
Tourism Management & Development Center  
116 SBE  
University of Minnesota  
Duluth, MN 55812 218-726-8542

Water oriented tourism businesses;  
financial management and user clientele  
characteristics; economic impact; user  
trend analysis.

Wright, David I.  
Research Associate  
Limnological Research Center  
220 Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455 612-624-5828

Lake management strategies focusing on  
feeding of planktivorous fish and  
zooplankton processes.

Wright, Herbert. E.  
Regent's Professor  
Departments of Geology & Geophysics;  
Ecology & Behavioral Biology  
Director  
Limnological Research Center  
220 Pillsbury Hall  
University of Minnesota  
Minneapolis, MN 55455 612-624-5215

Landscape history through study of lake  
sediments; effects of land use on lake-  
water quality; lake/groundwater  
interactions; lake-level changes as a  
record of climatic history.

Wright, Jerry A.  
Assistant Professor and Area Extension  
Agricultural Engineer  
Minnesota Extension Service/Agricultural  
Engineering  
University of Minnesota  
West Central Experiment Station  
Morris, MN 56267 612-589-1711

Irrigation water management and usage.

Wyse, Donald L.  
Professor  
Department of Agronomy and Plant Genetics  
411 Borlaug Hall  
University of Minnesota  
St. Paul, MN 55108 612-625-7064

Herbicides; perennial weeds.

Young, Robert A.  
Associate Professor and Agricultural Engineer  
Department of Agricultural Engineering and  
North Central Soil Conservation Research Laboratory  
Department of Agricultural Engineering  
213 Agricultural Engineering  
University of Minnesota  
St. Paul, MN 55108 612-589-3411

Soil and water conservation with emphasis on the  
mechanics of erosion and influence of agricultural  
practices on water quality.

Youngquist, Bernard E.  
Prof. Emeritus  
Northwest Experiment Station  
Rt 1  
Crookston, MN 56716 218-281-4724

Water and soil resource management and planning.

Zischke, James A.  
Professor  
Dept. of Biology  
St. Olaf College  
Northfield, MN 55057 507-645-8394

Stream ecology; wetlands ecology; aquatic  
toxicology.



RESEARCH TOPIC INDEX

#### Acid Precipitation

Bloom, P.R.	Eisenreich, S.J.	Grigal, D.F.
Brezonik, P.L.	Firling, C.E.	Rapp, G.R., Jr.
Chang, F.-H.	Fritz, S.C.	Verry, E.S.
Downing, W.L.	Gorham, E.	

Aquatic Biology (Including algal ecology/physiology, aquatic ecology, zooplankton, benthic ecology; also see: Ecology, Stream and River; Limnology; Microbiology; Aquatic; and Fisheries and Aquaculture)

Abbot, R.S.	Hill, G.J.C.	Naiman, R.J.
Alstad, D.N.	Holmstrand, L.L.	Niemi, G.J.
Bakko, E.B.	Hornback, D.J.	Pastor, J.
Blake, J.G.	Hopwood, A.J.	Perry, J.
Carlin, C.H.	Kingston, J.C.	Shapiro, J.
Cohen, Y.	Klemer, A.R.	Soroka, L.G.
Downing, W.L.	Lammers, R.K.	Spigarelli, S.A.
Gilbertson, D.E.	McConville, D.R.	Swain, E.B.
Gleason, F.K.	McKone, M.	Tillman, G.D.
Gorham, E.	McNaught, D.C.	Underhill, J.C.
Gundersen, R.W.	Mason, C.P.	Wagenbach, G.E.
Henney, R.	Megard, R.O.	Whiteside, M.C.
Hershey, A.E.	Monson, P.H.	Wright, D.I.
Hicks, R.E.	Moon, R.D.	Waters, T.F.

Agricultural Drainage Pollutants and Waste Management (also see: Pesticides, Soil-Water Relationships; Toxic Substances)

Adams, R.S.	Gupta, S.C.	Onstad, C.A.
Allmaras, R.R.	Larson, W.E.	Quade, H.W.
Bakko, E.B.	Malzer, G.L.	Randall, G.W.
Bergsrud, F.G.	Moncrief, J.F.	Runge, C.F.
Clanton, C.J.	Moore, I.D.	Taff, S.J.
Clapp, C.E.	Nieber, J.L.	Young, R.A.
Falk, L.L.	Olness, A.E.	Youngquist, B.E.

#### Cartography/Mapping

Gersmehl, P.J.  
Jirsa, M.A.  
Southwick, D.L.

#### Chemistry, Water/Aquatic/Aqueous Geochemistry

Brezonik, P.L.	Eisenreich, S.J.	Rapp, G.R., Jr.
Bloom, P.R.	Henney, R.	Seyfried, W.E.
Carlson, R.M.	Kreevoy, M.M.	Soroka, L.G.
Dreyer, K.A.	Lodge, K.B.	

#### Chemistry, Analytical

Dunbar, W.E.  
Holden, J.B., Jr.  
Krzyzaniak, D.

Mackeller, W.J.  
Munter, R.C.  
Poe, D.P.

Trihey, P.T.

#### Climatology

Baker, D.G.  
Condon, P.M.  
Gupta, S.C.

Palen, B.M.  
Porter, P.W.  
Seeley, M.W.

Skaggs, R.H.

#### Economics

Anderson, C.L.  
Anding, T.L.  
Easter, K.W.  
Eidman, V.  
Falk, L.L.  
Fruien, J.E.

Greenley, D.A.  
Kanazawa, M.T.  
Lichty, R.W.  
Maki, W.R.  
Nord, B.A.  
Peterson, J.M.

Raab, R.L.  
Skurla, J.A.  
Steinnes, D.N.  
Waelti, J.J.  
Wood, T.J.

#### Education (including public, youth, information transfer)

Baker, D.R.  
Brezonik, P.L.  
Donohue, G.A.

Kitts, J.R.  
McNaught, D.C.  
Munson, B.H.

Tichenor, P.J.

#### Ecology, streams and rivers

Alstad, D.N.  
Fremling, C.R.  
Hopwood, A.J.

Holt, C.S.  
Quade, H.W.  
Zischke, J.A.

Waters, T.F.

#### Groundwater hydrology

Alexander, E.C., Jr.  
Anderson, G.G.  
Bloomgren, B.A.  
Cotter, J.F.P.  
Glaser, P.H.

Grew, P.  
Jannik, N.O.  
Kanivetsky, R.  
Lively, R.S.  
Nelson, C.L.

Nieber, J.L.  
Pfannkuch, H.-O.  
Strack, O.D.L.

#### Groundwater pollution/quality

Alexander, E.C., Jr.  
Bakko, E.B.  
Clapp, C.E.  
Dorland, D.  
Eberlein, C.E.

Goyal, S.M.  
Jannik, N.O.  
Johnson, M.D.  
Kanivetsky, R.  
Lively, R.S.

Maier, W.J.  
Moore, I.D.  
Nieber, J.L.  
Pfannkuch, H.-O.  
Rehm, G.W.

#### Fisheries and Aquaculture

Adelman, I.R.  
Anderson, P.M.  
Bellig, R.A.  
Cohen, Y.  
Collins, H.L.  
Collins, T.W.  
Firling, C.E.  
Fremling, C.R.

Gunderson, J.L.  
Hatch, J.T.  
Holmstrand, L.L.  
Holt, C.S.  
Kapuscinski, A.R.  
McConville, D.R.  
McDonald, M.E.  
Spangler, G.R.

Spigarelli, S.A.  
Underhill, J.C.  
Waters, T.F.  
Weisberg, S.  
Whiteside, M.C.  
Williams, S.F.

#### Fluid mechanics/thermodynamics

Arndt, R.E.A.  
Eckert, E.R.  
Farell, C.  
Goldstein, R.J.

Ibele, W.E.  
Killen, J.M.  
Kuehn, T.H.  
Patankar, S.V.

Simon, T.W.  
Song, C.C.S.  
Wetzel, J.M.

#### Great Lakes

Baker, D.R.  
Collins, H.L.  
Dorland, D.  
Eisenreich, S.J.

Gunderson, J.L.  
McDonald, M.E.  
McNaught, D.C.  
Morey, G.B.

Nord, D.C.  
Spangler, G.R.  
Underhill, J.C.

#### Hydraulics (including river mechanics)

Arndt, R.E.A.  
Farell, C.  
Gulliver, J.S.  
Killen, J.M.

Paola, C.  
Parker, G.  
Parson, C.G.  
Song, C.C.S.

Stefan, H.  
Voight, R.L.  
Wetzel, J.M., Jr.

#### Hydrogeology

Alexander, E.C., Jr.  
Bloomgren, B.A.  
Chandler, V.W.  
Cotter, J.F.P.  
Grew, P.  
Hoyer, M.

Jirsa, M.A.  
Kanivetsky, R.  
Lively, R.S.  
Meyer, G.N.  
Morey, G.B.  
Mossler, J.H.

Nelson, C.L.  
Olsen, B.M.  
Palen, B.M.  
Setterholm, D.R.  
Southwick, D.L.

## Hydrology

Alexander, E.C., Jr.	Jannik, N.O.	Palen, B.M.
Anderson, G.G.	Jirsa, M.A.	Savina, M.E.
Buchwald, E.	Johnson, M.D.	Setterholm, D.R.
Cotter, J.F.P.	Kanivetsky, R.	Shurr, G.W.
Grew, P.	Matsch, C.L.	
Hoyer, M.	Nielsen, D.N.	

## Hydrology, surface (also see: Groundwater hydrology)

Bergland, E.R.	Onstad, C.A.
Brooks, K.N.	Verry, E.S.
McConville, D.R.	

## Hydropower

Arndt, R.E.A.	Hopwood, A.J.
Farell, C.	Voight, R.L., Jr.
Gulliver, J.S.	

## Health effects (also see toxic substances)

Anderson, P.M.	Robinson, R.A.
Goyal, S.M.	Singer, R.D.

## Information Systems (Data bases)

Bloomgren, B.A.	Gersmehl, P.J.	Parson, C.G.
Brown, D.A.	Nassauer, J.I.	
Craig, W.J.	Olsen, B.M.	

## Irrigation Water

Bergsrud, F.G.	Reicosky, D.G.
Eidman, V.	Wright, J.A.

## Land/water interactions (including non point source pollution, land use, watershed management)

Anding, T.L.	Engstrom, D.R.	Runge, C.F.
Bixby, R.	Gersmehl, P.J.	Sykes, R.D.
Borchert, J.R.	Knutson, K.M.	Thurston, D.
Brooks, K.N.	Latterell, J.J.	Trihey, P.T.
Buchwald, E.	Naiman, R.J.	Wright, H.E.
Condon, P.M.	Neckar, L.M.	
Davis, M.B.	Pfannkuch, H.-O.	

### Landscape management

Clemence, R.D.	Nassauer, J.I.
Condon, P.M.	Olin, P.J.
Martin, F.B.	Pitt, D.

### Law (see also: Management, water resources and policy, water)

Farber, D.A.	Prince, J.D.
Gelpe, M.R.	Roberts, M.K.
LaChapelle, A.W.	

### Limnology (including lake management, eutrophication, and lake quality; also see: Great Lakes; Paleolimnology; Quality surface water)

Brezonik, P.L.	Klemer, A.R.	Stefan, H.
Collins, T.W.	Knutson, K.M.	Swain, E.B.
Eisenreich, S.J.	McNaught, D.C.	Swackhammer, D.
Fremling, C.R.	Megard, R.O.	Tilman, G.D.
Gorham, E.	Nelson, C.L.	Whiteside, M.C.
Hornback, D.J.	Quade, H.W.	Wright, D.I.
Holt, C.S.	Shapiro, J.	
Kleist, S.	Soroka, L.G.	

### Management, Water Resources

Bergsrud, F.G.	Easter, K.W.
Borchert, J.R.	Einsweiler, R.C.
Brown, D.A.	Youngquist, B.E.

### Microbiology, Aquatic (including virology)

Chang, F.-H.	Hicks, R.E.	Perry, J.
Gleason, F.K.	Hill, G.J.C.	Straw, T.E.
Goyal, S.M.	Maier, W.J.	Wood, J.M.
Hanson, R.	Molina, J.A.	

### Paleolimnology

Cotter, J.F.P.	Fritz, S.C.	Van Alstine, J.B.
Cushing, E.J.	Kingston, J.C.	Wright, H.E.
Davis, M.B.	Melchoir, R.C.	
Engstrom, D.R.	Swain, E.B.	

Pesticides (including herbicides)

Adams, R.S.  
Burnside, O.C.  
Chang, F.-H.

Cohn, S.L.  
Eberlein, C.E.  
Noetzel, D.M.

Wyse, D.L.

Policy, Water

Anding, T.L.  
Bixby, R.  
Craig, W.J.  
Easter, K.W.  
Eidman, V.

Einsweiler, R.C.  
Feldman, D.L.  
Kanazawa, M.T.  
Martin, F.B.  
Nord, D.C.

Olsen, D.W.  
Quade, H.W.  
Skurla, J.A.  
Taft, S.J.  
Waelti, J.J.

Pollution Control (including engineering processes and wastewater treatment)

Anderson, J.L.  
Cussler, E.L.  
Dunbar, W.E.  
Geankoplis, C.J.  
Kitts, J.R.  
Kleist, S.

Kreevoy, M.M.  
Latterell, J.J.  
Lodge, K.B.  
Machmeier, R.E.  
Maier, W.J.  
McDonald, M.E.

Mathiason, D.  
Neckar, L.M.  
Piu, D.Y.  
Semmens, M.J.

Quality, Surface Water

Baker, D.R.  
Bergsrud, F.G.  
Brezonik, P.L.  
Cohn, S.L.  
Greenley, D.A.  
Johnson, M.D.

Knutson, K.M.  
Lundberg, K.R.  
McConville, D.R.  
Mathiason, D.  
Naiman, R.J.  
Niemi, G.J.

Perry, J.  
Quade, H.W.  
Stefan, H.  
Verry, E.S.  
Wright, H.E.

Sociological Aspects of Water (also see Economics)

Borchert, J.R.  
Clemmence, R.D.  
Donohue, G.A.

Falk, L.L.  
Gerlach, L.P.  
Nord, B.A.

Soil-water Relationships

Allmaras, R.R.  
Anderson, J.L.  
Benoit, G.R.  
Bloom, P.R.  
Dowdy, R.H.  
Grigal, D.F.  
Gupta, S.C.

Larson, W.E.  
Latterell, J.J.  
Linden, D.  
Malzer, G.L.  
Molina, J.A.  
Moore, I.D.  
Olness, A.E.

Randall, G.W.  
Rehm, G.W.  
Reicosky, D.C.  
Swan, J.B.  
Voorhees, W.B.  
Young, R.A.

Statistics (including statistical analysis)

Martin, F.B.  
Oehlert, G.W.  
Skaggs, R.H.

Sediments (including sedimentology, sediment transport, stratigraphy; also see paleolimnology)

Anderson, G.G.	Meyer, G.N.	Paola, C.
Engstrom, D.R.	Morey, G.B.	Parker, G.
Johnson, M.D.	Mossler, J.H.	Van Alstine, J.B.
Matsch, C.L.	Nelson, C.L.	Wright, H.E.

Tourism and Recreation

Greenley, D.A.	Nord, B.A.
Kreag, G.	Raab, R.L.
Martin, R.B.	Wood, T.J.

Toxic Substances/Toxicology (also see Agricultural drainage; Groundwater pollution/quality; Herbicides; Pollution control; Quality, surface water)

Anderson, P.M.	Dorland, D.	Pfannkuch, H.-O.
Adams, R.S.	Eisenreich, S.J.	Swackhammer, D.
Carlin, C. H.	Faber, R.A.	Wallace, K.B.
Carlson, R.M.	McDonald, M.E.	Wood, J.M.
Chang, F.-H.	McNaught, D.C.	Zischke, J.A.
Cohn, S.L.	Perry, J.	

Waste Treatment (see Pollution Control)

Water-Plant Relationships

Benoit, G.R.	Randall, G.W.	Voorhees, W.B.
Latterell, J.J.	Reicosky, D.C.	White, D.B.
Malzer, G.L.	Rehm, G.W.	
Olness, A.E.	Stadelmann, E.J.	

Wetlands (including ecology, water quality, peatland development)

Berglund, E.R.	Glaser, P.H.	Naiman, R.J.
Blake, J.G.	Gorham, E.	Pastor, J.
Brooks, K.N.	Johnston, C.A.	Van Amburg, G.L.
Craig, W.J.	Lammers, R.K.	Verry, E.S.
Eisenreich, S.J.	Lundberg, K.R.	Zischke, J..A



CAMPUS AND DEPARTMENT INDEX

UNIVERSITY OF MINNESOTA

Department of Agricultural Engineering

Bergsrud, F.G.  
Clanton, C.J.  
Machmeier, R.E.  
Moore, I.D.  
Nieber, J.L.  
Young, R.A.

Department of Agriculture & Applied  
Economics

Easter, K.W.  
Eidman, V.  
Fruin, J.E.  
Maki, W.R.  
Runge, C.F.  
Taff, S.J.  
Waelti, J.J.

Department of Agronomy & Plant  
Genetics

Burnside, O.C.  
Eberlein, C.E.  
Wyse, D.L.

Department of Anthropology

Gerlach, L.P.

Department of Applied Statistics

Martin, F.B.  
Oehlert, G.W.  
Weisberg, S.

School of Architecture & Landscape  
Architecture

Clemence, R.D.  
Martin, R.B.  
Sykes, R.D.

Bell Museum of Natural History

Gilbertson, D.E.

Department of Chemistry

Kreevoy, M.M.

Center for Urban & Regional Affairs

Anding, T.L.  
Craig, W.J.

Department of Chemical  
Engineering

Cussler, E.L.  
Geankoplis, C.J.

Department of Civil & Mineral  
Engineering

Arndt, R.E.A.  
Brezonik, P.L.  
Eisenreich, S.J.  
Farell, C.  
Gulliver, J.S.  
LaChapelle, A.W.  
Maier, W.J.  
Parker, G.  
Song, C.C.S.  
Semmens, M.J.  
Stefan, H.  
Strack, O.D.L.

Department of Ecology &  
Behavioral Biology

Alstad, D.N.  
Cushing, E.J.  
Davis, M.B.  
Gorham, E.  
McNaught, D.C.  
Megard, R.O.  
Tilman, G. D.  
Underhill, J.C.  
Wright, H.E.

Department of Entomology

Moon, R.D.  
Noetzel, D.M.

Department of Fisheries &  
Wildlife

Adelman, I.R.  
Cohen, Y.  
Kapuscinski, A.R.  
Kitts, J.R.  
Spangler, G.R.  
Waters, T.F.

Department of Forest Resources

Berglund, E.R.  
Brooks, K.N.  
Perry, J.

General College

Hatch, J.T.

Department of Geography

Borchert, J.R.  
Brown, D.A.  
Gersmehl, P.J.  
Porter, P.W.  
Skaggs, R.H.

Department of Geology &  
Geophysics

Alexander, E.C., Jr.  
Grew, P.  
Pfannkuch, H.O.  
Paola, C.  
Seyfried, W.E.  
Shapiro, J.  
Wright, H.E.

Gray Freshwater Biological  
Institute

Gleason, F.K.  
Hanson, R.  
Swain, E.B.  
Wood, J.M.

Department of Horticultural  
Science & Landscape  
Architecture

Condon, P.M.  
Nassauer, J.I.  
Neckar, L.M.  
Olin, P.J.  
Pitt, D.  
Stadelmann, E.J.  
White, D.B.

Humphrey Institute of Public  
Affairs

Einsweiler, R.C.

School of Journalism & Mass  
Communication

Tichenor, P.J.

Law School

Farber, D.A.

Limnological Research Center

Engstrom, D.R.

Fritz, S.C.

Glaser, P.H.

Shapiro, J.

Wright, D.I.

Wright, H.E.

Department of Mechanical  
Engineering

Eckert, E.R.

Goldstein, R.J.

Ibele, W.E.

Kuehn, T.H.

Patankar, S.V.

Pui, D.Y.

Simon, T.W.

Minnesota Geological Survey

Bloomgren, B.A.

Chandler, V.W.

Grew, P.

Hoyer, M.

Jirsa, M.A.

Kanivetsky, R.

Lively, R.S.

Meyer, G.N.

Morey, G.B.

Mossler, J.H.

Olsen, B.M.

Palen, B.M.

Setterholm, D.R.

Southwick, D.L.

School of Public Health

Singer, R.D.

Swackhammer, D.

Department of Rural Sociology

Donohue, G.A.

Tichenor, P.J.

St. Anthony Falls Hydraulic  
Laboratory

Arndt, R.E.A.

Farell, C.

Gulliver, J.S.

Killen, J.M.

Parker, G.

Song, C.C.S.

Stefan, H.

Voight, R.L., Jr.

Wetzel, J.M.

Department of Soil Science

Adams, R.S.

Allmaras, R.R.

Anderson, J.L.

Baker, D.G.

Bloom, P.R.

Clapp, C.E.

Dowdy, R.H.

Grigal, D.F.

Gupta, S.C.

Larson, W.E.

Linden, D.

Malzer, G.L.

Molina, J.A.

Moncrief, J.F.

Munter, R.C.

Rehm, G.W.

Seeley, M.W.

Swan, J.B.

College of Veterinary Medicine

Goyal, S.M.

Robinson, R.A.

UNIVERSITY OF MINNESOTA - DULUTH

Department of Biology

Collins, H.L.

Firling, C.E.

Hershey, A.E.

Hicks, R.E.

Holmstrand, L.L.

Klemer, A.R.

Monson, P.H.

Whiteside, M. C.

Department of Biochemistry and  
Medicinal Chemistry

Anderson, P.M.

School of Business & Economics

Skurla, J.A.

Department of Chemistry

Carlson, R.M.

Poe, D.P.

Department of Economics

Anderson, C.L.

Lichty, R.W.

Peterson, J.M.

Raab, R.L.

Steinnes, D.N.

Department of Geology

Kingston, J.C.

Matsch, C.L.

Natural Resources Research  
Institute

Blake, J.G.

Johnston, C.A.

Lodge, K.B.

McDonald, M.E.

Naiman, R.J.

Niemi, G.J.

Pastor, J.

Department of Pharmacology

Wallace, K.B.

Department of Political Science

Nord, D.C.

College of Science and  
Engineering

Rapp, G.R.

Sea Grant Extension Program

Baker, D.R.  
 Dorland, D.  
 Gunderson, J.L.  
 Kreag, G.  
 Munson, B.H.

Tourism Management & Development Center

Wood, T.J.

Urban & Regional Studies Program

Olsen, D.W.

UNIVERSITY OF MINNESOTA - MORRIS

Abbott, R.S.	Biology
Cotter, J.F.P.	Geology
Latterell, J.J.	Chemistry
Nord, B.A.	Sociology
Reicosky, D.C.	Soil Scientist
Straw, T.E.	Science & Mathematics
Van Alstine, J.B.	Science & Mathematics

AGRICULTURAL EXPERIMENT STATIONS

Benoit, G.R.	Soil Scientist
Olness, A.E.	Soil Scientist
Onstad, C.A.	Soil Scientist
Randall, G.W.	Soil Scientist
Verry, E.S.	Forest Hydrologist
Voorhees, W.B.	Soil Scientist
Wright, J.A.	Agricultural Engineering
Youngquist, B.E.	Soil Scientist

AUGSBURG COLLEGE

Lammers, R.K.	Biology
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BEMIDJI STATE UNIVERSITY

Chang, F.-H.	Environmental Microbiology
Dreyer, K.A.	Chemistry
Holt, C.S.	Biology
Lundberg, K.R.	Chemistry
Melchior, R.C.	Geology
Parson, C.G.	Geography
Spigarelli, S.A.	Environmental Studies
Trihey, P.T.	Biology

CARLETON COLLEGE

Buchwald, E.	Environmental Studies
Carlin, C.H.	Chemistry
Hill, G.J.C.	Biology
Kanazawa, M.T.	Economics
McCone, M.	Biology
Savina, M.E.	Geology
Wagenbach, G.E.	Biology

CONCORDIA COLLEGE

Falk, L.L.	Sociology & Social Work
Van Amburg, G.L.	Biology

GUSTAVUS ADOLPHUS COLLEGE

Bellig, R.A.	Biology
Johnson, M.D.	Geology
Mason, C.P.	Biology

HAMLIN UNIVERSITY

Downing, W.L.	Biology
Roberts, M.K.	Law

MACALESTER COLLEGE

Hornbach, D.J.	Biology
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MANKATO STATE UNIVERSITY

Henney, R.	Chemistry
Holden, J.B., Jr.	Chemistry
Quade, H.W.	Biology
Thurston, D.	Geography

MOORHEAD STATE UNIVERSITY

Collins, T.W.	Biology
Feldman, D.L.	Political Science
Greenley, D.A.	Economics
Krzyzaniak, D.	Chemistry
Mackellar, W.J.	Chemistry
Mathiason, D.	Chemistry

#### ST. CLOUD STATE UNIVERSITY

Anderson, G.G.	Earth Sciences
Bixby, R.	Geography
Cohn, S.L.	Aquatic toxicology
Gundersen, R.W.	Biology
Hopwood, A.J.	Biological Sciences
Knutson, K.M.	Biological Sciences
Nelson, C.L.	Earth Sciences
Shurr, G.W.	Earth Sciences
Soroka, L.G.	Earth Sciences
Williams, S.F.	Biological Sciences

#### ST. MARY'S COLLEGE

Faber, R.A.	Biology
McConville, D.R.	Biology

#### ST. OLAF COLLEGE

Bakko, E.B.	Biology
Zischke, J.A.	Biology

#### VERMILLION COMMUNITY COLLEGE - ELY

Kleist, S.	Water Resources Technology
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#### WILLIAM MITCHELL COLLEGE OF LAW

Gelpe, M.R.	Law
Prince, J. D.	Law

#### WINONA STATE UNIVERSITY

Dunbar, W.E.	Chemistry
Fremling, C.R.	Biology
Jannik, N.O.	Geology
Nielsen, D.N.	Science & Technology